PATENT Docket No. 220022001600

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Rhea Amid

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#18

In the application of:

Tom F. LUE, et al.

Serial No .:

09/909,544

Filing Date:

July 19, 2001

For:

METHODS AND COMPOSITIONS FOR PREVENTING AND TREATING MALE ERECTILE DYSFUNCTION AND FEMALE SEXUAL AROUSAL

DISORDER

Examiner: Celine X. Qian

Group Art Unit: 1636

# DECLARATION OF TOM F. LUE PURSUANT TO 37 C.F.R § 1.132

Assistant Commissioner for Patents Washington, D.C. 20231

Dear Sir:

- I, Tom F. Lue, in my individual capacity, hereby declares as follows:
- 1. I am one of the co-inventors of the above-referenced patent application, and am familiar with the contents thereof.

#### Bakircioglu

- I have reviewed the publication entitled "The effect of adeno-associated virus-mediated brain-derived neurotrophic factor in an animal model for neurogenic impotence," published in *Journal of Urology*, Vol. 163, No. 4 Suppl., pp. 198 (April, 2000) (Bakircioglu), and cited by the Examiner, for which I am a co-author. The publication was cited by the Examiner as prior art against the application under 35 U.S.C. § 102(a).
- 3. The publication cited describes work that is encompassed by this patent application and its parent applications. The co-authors, Bakircioglu, M.E., Wefer, J., Sievert, KD and Fan, P., named in the publication were not involved in the conception of the subject matter of the presently claimed invention. Moreover, these co-authors worked under my and other co-inventors' direction performing work that led to the invention, but did not make an inventive contribution to the subject matter of the presently claimed invention.

#### Treatment of erectile dysfunction with vascular changes by BDNF

4. My co-inventors and I have performed, or have directed others to perform, experiments that show that a high fat diet caused erectile dysfunction with accompanying neurological and vascular changes. The changes include less nerve content, fewer endothelial cells and lighter smooth muscle content, hypermyelination and severe atrophy of axons, a remarkable decrease in the number and size of nonmyelinated axons, disarray of the smooth muscle cells with scant myofilaments and foamy cytoplasm and denuded endothelial lining of the sinusoids covered by numerous platelets (See Exhibit 1, Gholami et al., "The Effect of Vascular Endothelial Growth Factor and Adeno-Associated Virus Mediated Brian Derived Neurotrophic Factor on Neurogenic and Vasculogenic Erectile Dysfunction Induced by Hyperlipidemia," to be published in J. Urology (2003)). Our experiments also show that treatment with BDNF, e.g., AAV-BDNF, alleviates, at least partially, these changes.

### Prevention of erectile dysfunction by BDNF treatment

- 5. My co-inventors and I have performed, or have directed others to perform, experiments that show that, after nerve crash, BDNF/VEGF treatment can prevent and facilitate regeneration of nNOS containing neurons in the major pelvic ganglia, dorsal never and intracavernous tissue (See Exhibit 2. Bochinski et al., "The Effect of Vascular Endothelial Growth Factor and Brian Derived Neurotrophic Factor on Cavernous Nerve Regeneration in a Nerve-Crush Rat Model," manuscript submitted to British Journal of Urology). This result indicates that BDNF can have preventive, as well as therapeutic, effect to the erectile dysfunction.
- 6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

March 17,2003

Date

Tom F. Lue

## MORRISON & FOERSTER LLP

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GROUP 1600

To: Celine X. Qian, Examiner

Group Art Unit 1636

U.S. Patent and Trademark Office

Facsimile: (703) 305-3014

Phone:

(703) 306-0283

From: Peng Chen

Date:

June 13, 2003

We are transmitting a total of 6 pages (including this page). Original or hard copy to follow if this box is checked  $\square$ .

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#### Comments:

Re: U.S. Pat. Appln No/09/909,544, Filed: July 19, 2001

Our Ref: 22002-20016.00

#### Dear Examiner Qian:

Per our conversation this date, attached are copies of the return receipt postcard and executed Declaration as mailed on March 31, 2003.

Regards,

Peng Chen

Atty Docket No.: 220022001600

Inventor: Tom F. Lue, et al.

Application No.: 09/909,544 Filing Date: July 19, 2001 Title:

METHODS AND COMPOSITIONS FOR PREVENTING AND TREATING MALE ERECTILE DYSFUNCTION AND FEMALE SEXUAL AROUSAL DISORDER

Documents Filed: Transmittal (1 page)

Executed Declaration

Via: First Class Mail

Sender's Initials: PChen/rxa5

Date: March 31, 2003

Atty Docket No.: 220022001600

Inventor: Tom F. Lue, et al.

Application No.: 09/909,544

Filing Date: July 19, 2001

METHODS AND COMPOSITIONS FOR PREVENTING AND TREATING MALE Title:

ERECTILE DYSFUNCTION AND FEMALE SEXUAL AROUSAL DISORDER

Documents Filed: Transmittal (1 page)

**Executed Declaration** 

Via: First Class Mail

Sender's Initials: PChen/rxa5

Date: March 31, 2003

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Under	ring Paperwark Reduction Ac	a cir tass. No persons a	Application Number	09/909,544
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			First Named Inventor	Tom F. Lue
			Group Art Unit	1636
			Examiner Name	Celine X. Qian
Total Number of Pages in This Submission		on 4	Attorney Docket Numbe	r <b>22002</b> 2001600
		ENCLOS	SURES (check all t	hat apply)
Fee Transmittal Form  Fee Attached  Amendment/Reply  After Final  X Affidavits/declaration(s)  Extension of Time Request  Express Abandonment Request  Information Disclosure Statement  Certified Copy of Priority Document(s)		Petition  Petition to C Application  Power of Atto	lated Papers convert to a Provisional orney, Revocation orrespondence Address sclaimer	After Allowance Communication to Group Appeal Communication to Board of Appeals and Interferences Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) -  Proprietary Information  Status Letter  X Other Enclosure(s) (please identity below) Return Postcard
Response to Missing Parts/ Incomplete Application Response to Missing Parts under 37 CFR 1.52 or 1.53		Remarks	25225 PATENT, TRADEMARK OFFICE	
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Signature				
Date Ma	March 31, 2003			

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